

```
%Human Lung
%Simulates the posterior mean parameter values from the MCMC analysis
%Plots simulation against the in vitro data
%Choice of mean or upper 95th percentile parameter for VK
```

```
prepare @all
```

```
kk = [];
fkk = [];
```

```
VVIAL=0.0119573;
VMED=0.001;
VINJ=0.0004 ;
VAIR=VVIAL-VMED;
P1 = 0.69;
TSTOP=0.9; TF=0.; TI=0.2;
PROT = 1.0;
CINT = 0.1 ;
MAXT = 0.001 ;
```

```
%Human Lung
```

```
kk=[];
fkk=[];
Lungdata = [
0      0.38739      1.93135      9.95166      37.5
0.025 NaN      NaN      NaN      37.29192
0.2    0.35989      1.81019      9.10727      NaN
0.225 NaN      NaN      NaN      35.33736
0.4    0.33592      1.71588      8.43281      NaN
0.425 NaN      NaN      NaN      33.61007
0.6    0.31408      1.63196      NaN      NaN
0.625 NaN      NaN      NaN      31.73548
0.8    0.2967      1.56269      NaN      NaN
0.825 NaN      NaN      NaN      30.29655];
```

```
%Human lung microsomes - 10, 50, 264 and 1000 ppm
```

```
KG = 0.11 ; %Estimated to female mouse liver
RLOSS = 0.001424 ;
a10a=[];
for pp = 2:5
    A10 = Lungdata(1, pp) '*(VAIR+P1*VMED);
    VMAX1=0.0;
    KM1=1.0;
```

```
%MCMC Redo (Mean)
```

```
VK = 1.49e-14 ;
KG1 = 0.45 ;
```

```
%MCMC Redo (Upper 95th)
```

```
VK = 0.00044 ;
KG1 = 0.45 ;
```

```
start @nocallback
```

```
    a10a = [a10a,A10];
    kk = [kk, _cal];
end % end of dose loop
    fkk= [_time, kk];
disp("Human Lung")

plot(_time, kk(:,1), _time, kk(:,2), _time, kk(:,3), _time, kk(:,4),
Lungdata(:,1), Lungdata(:,2), Lungdata(:,1), Lungdata(:,3),
Lungdata(:,1), Lungdata(:,4), Lungdata(:,1), Lungdata(:,5),
'mixhumanlng.aps');
```